15. **Approve Ranking List, Authorize Negotiations, and Award a Master Agreement for PS-5163-04/AJR – St. Johns and Lake Harney Basin Engineering Evaluation and Drainage Inventory.**

PS-5163-04/AJR will provide for an Engineering Study of the St. Johns and Lake Harney Basin. There are four phases: Phase I -Implementation of the recommended improvements in the "Mullet Lake Park Road Outfall Study" – February 2004, prepared by Inwood Consulting Engineers; Phase II - addresses the basin system inventory; Phase III - provides engineering analysis to determine the entire basin drainage system capacity and demands and Phase IV, Implementation.

This project was publicly advertised and the County received three submittals (listed in alphabetical order):

- Brown & Caldwell, Maitland;
- ECT, New Smyrna Beach;
- Inwood Consulting Engineers, Inc., Oviedo.

The Evaluation Committee, which consisted of JR Ball III, P.E., Principal Engineer; Mark Flomerfelt, P.E., Road & Stormwater Manager; Kimberly Ornberg, P.E., Principal Engineer; Ed Torres, P.E., Principal Engineer; and Robert Walter, P.E., Principal Engineer evaluated the submittals and short-listed all three firms for presentations.

Presentations were evaluated on the following criteria:

- Qualifications;
- Experience;
- Methodology;
- Ability to Perform.

The Evaluation Committee recommends that the Board approve the ranking below and authorize staff to negotiate in accordance with F.S. 287.055, the Consultants Competitive Negotiation Act (CCNA):

1. Inwood Consulting Engineers, Inc., Oviedo;
2. ECT, New Smyrna Beach;
3. Brown & Caldwell, Maitland.

The Consultant will be authorized to perform services under this agreement by written Work Orders issued and executed by the County and signed by the Consultant. The work and dollar amount for each Work Order will be within the constraints of the approved project budget and negotiated on an as-needed basis for the project. The estimated contract value is $200,000.00 per year. The contract is for five years with two five year renewal options.

Public Works/ Engineering Division and Fiscal Services/Purchasing and Contracts Division recommend that the Board approve the ranking, authorize staff to negotiate and authorize the Chairman to execute an Agreement as prepared by the County Attorney's Office.

B.C.C. - SEMINOLE COUNTY, FL
PS TABULATION SHEET

PS NUMBER: PS-5163-04/AJR
PS TITLE : Master Agreement for St. Johns and Lake Harney Basin Engineering Evaluation and Drainage Inventory
DATE: May 28, 2004 TIME: 2:00 P.M.

ALL SUBMITTALS ACCEPTED BY SEMINOLE COUNTY ARE SUBJECT TO THE COUNTY'S TERMS AND CONDITIONS AND ANY AND ALL ADDITIONAL TERMS AND CONDITIONS SUBMITTED BY THE PROPOSERS ARE REJECTED AND SHALL HAVE NO FORCE AND EFFECT. PS DOCUMENTS FROM THE PROPOSERS LISTED HEREIN ARE THE ONLY SUBMITTALS RECEIVED TIMELY AS OF THE ABOVE OPENING DATE AND TIME. ALL OTHER PS DOCUMENTS SUBMITTED IN RESPONSE TO THIS SOLICITATION, IF ANY, ARE HEREBY REJECTED AS LATE.

RESPONSE -1-	RESPONSE -2-	RESPONSE -3-
Brown & Caldwell 1060 Maitland Center Commons Suite 402 Maitland, FL 32751 Rodney Ghioto, P.E. 407-661-9500 – Phone 407-661-9599 – Fax	ECT 340 North Causeway New Smyrna Beach, FL 32169 Robert J. Naleway 386-427-0694 – Phone 386-427-0889 – Fax	Inwood Consulting Engineers, Inc. 870 Clark Street Oviedo, FL 32765 David G. Coleman, P.E. 407-971-8850 – Phone 407-971-8955 – Fax

Tabulated by: Amy Rossi, CPPB, Sr. Contracts Analyst – Posted 06/01/04
~~Evaluation Committee Meeting: TBD~~
~~Short Listed Firms: TBD~~
Presentations Date: 07/09/2004, 520 West Lake Mary Blvd., Sanford, Lake Jesup C.R., starting at 9:00am
Recommendation: Inwood Consulting Engineers, Inc. BCC Date: 08/10/2004 (Posted: 07/12/2004)

Evaluation/Presentations PS-5163-04/AJR - St. Johns and Lake Harney Basin

	JR Ball	Mark Flomerfelt	Kim Ornberg	Ed Torres	Robert Walter	Total	Ranking
Brown & Caldwell	3	3	3	2	2	13	3
ECT	1	1	1	3	3	9	2
Inwood Consulting Engineers	2	2	2	1	1	8	1

Overall Ranking	Score	Ranking
Inwood Consulting Engineers	8	1
ECT	9	2
Brown & Caldwell	13	3

ENGINEERING SERVICES AGREEMENT (PS-5163-04/AJR)
ST. JOHNS AND LAKE HARNEY BASIN
ENGINEERING EVALUATION AND DRAINAGE INVENTORY

THIS AGREEMENT is made and entered into this _____ day of _____, 20____, by and between **INWOOD CONSULTING ENGINEERS, INC.**, duly authorized to conduct business in the State of Florida, whose address is 870 Clark Street, Oviedo, Florida 32765, hereinafter called the "ENGINEER" and **SEMINOLE COUNTY**, a political subdivision of the State of Florida, whose address is Seminole County Services Building, 1101 East First Street, Sanford, Florida 32771, hereinafter called the "COUNTY".

W I T N E S S E T H:

WHEREAS, the COUNTY desires to retain the services of a competent and qualified engineer to perform the St. Johns and Lake Harney Basin Engineering Evaluation and Drainage Inventory for Seminole County; and

WHEREAS, the COUNTY has requested and received expressions of interest for the retention of services of engineers; and

WHEREAS, the ENGINEER is competent and qualified to furnish engineering services to the COUNTY and desires to provide professional services according to the terms and conditions stated herein,

NOW, THEREFORE, in consideration of the mutual understandings and covenants set forth herein, the COUNTY and the ENGINEER agree as follows:

SECTION 1. SERVICES. The COUNTY does hereby retain the ENGINEER to furnish professional services and perform those tasks as further described in the Scope of Services attached hereto as Exhibit "A" and made a part hereof. Required services shall be specifically enumerated, described and depicted in the Work Orders authorizing performance of the specific project, task or study. This Agreement standing alone does not authorize the performance of any work or require the COUNTY to place any

orders for work.

SECTION 2. TERM. This Agreement shall take effect on the date of its execution by the COUNTY and shall run for a period of five (5) years and, at the sole option of COUNTY, may be renewed for two (2) successive periods not to exceed five (5) years each. Expiration of the term of this Agreement shall have no effect upon Work Orders issued pursuant to this Agreement and prior to the expiration date. Obligations entered therein by both parties shall remain in effect until completion of the work authorized by the Work Order.

SECTION 3. AUTHORIZATION FOR SERVICES. Authorization for performance of professional services by the ENGINEER under this Agreement shall be in the form of written Work Orders issued and executed by the COUNTY and signed by the ENGINEER. A sample Work Order is attached hereto as Exhibit "B". Each Work Order shall describe the services required, state the dates for commencement and completion of work and establish the amount and method of payment. The Work Orders will be issued under and shall incorporate the terms of this Agreement. The COUNTY makes no covenant or promise as to the number of available projects, nor that, the ENGINEER will perform any project for the COUNTY during the life of this Agreement. The COUNTY reserves the right to contract with other parties for the services contemplated by this Agreement when it is determined by the COUNTY to be in the best interest of the COUNTY to do so.

SECTION 4. TIME FOR COMPLETION. The services to be rendered by the ENGINEER shall be commenced, as specified in such Work Orders as may be issued hereunder, and shall be completed within the time specified therein. In the event the COUNTY determines that significant benefits would accrue from expediting an otherwise established time schedule for completion of services under a given Work Order, that Work Order may

include a negotiated schedule of incentives based on time savings.

SECTION 5. COMPENSATION. The COUNTY agrees to compensate the ENGINEER for the professional services called for under this Agreement on either a "Fixed Fee" basis or on a "Time Basis Method". If a Work Order is issued under a "Time Basis Method," then ENGINEER shall be compensated in accordance with the rate schedule attached as Exhibit "C". If a Work Order is issued for a "Fixed Fee Basis," then the applicable Work Order Fixed Fee amount shall include any and all reimbursable expenses. Total annual compensation, including reimbursable expenses, shall not exceed County budgeted amounts for this project.

SECTION 6. REIMBURSABLE EXPENSES. If a Work Order is issued on a "Time Basis Method," then reimbursable expenses are in addition to the hourly rates. Reimbursable expenses are subject to the applicable "Not-to-Exceed" or "Limitation of Funds" amount set forth in the Work Order. Reimbursable expenses may include actual expenditures made by the ENGINEER, his employees or his professional associates in the interest of the Project for the expenses listed in the following paragraphs:

(a) Expenses of transportation, when traveling in connection with the Project, based on Sections 112.061(7) and (8), Florida Statutes, or their successor; long distance calls and telegrams; and fees paid for securing approval of authorities having jurisdiction over the Project.

(b) Expense of reproductions, postage and handling of drawings and specifications.

(c) If authorized in writing in advance by the COUNTY, the cost of other expenditures made by the ENGINEER in the interest of the Project.

SECTION 7. PAYMENT AND BILLING.

(a) If the Scope of Services required to be performed by a Work Order is clearly defined, the Work Order shall be issued on a "Fixed Fee" basis. The ENGINEER shall perform all work required by the Work Order but, in no event, shall the ENGINEER be paid more than the negotiated Fixed Fee amount stated therein.

(b) If the Scope of Services is not clearly defined, the Work Order may be issued on a "Time Basis Method" and contain a Not-to Exceed amount. If a Not-to-Exceed amount is provided, the ENGINEER shall perform all work required by the Work Order; but, in no event, shall the ENGINEER be paid more than the Not-to-Exceed amount specified in the applicable Work Order.

(c) If the Scope of Services is not clearly defined, the Work Order may be issued on a "Time Basis Method" and contain a Limitation of Funds amount. The ENGINEER is not authorized to exceed that amount without the prior written approval of the COUNTY. Said approval, if given by the COUNTY, shall indicate a new Limitation of Funds amount. The ENGINEER shall advise the COUNTY whenever the ENGINEER has incurred expenses on any Work Order that equals or exceeds eighty percent (80%) of the Limitation of Funds amount.

(d) For Work Orders issued on a "Fixed Fee Basis," the ENGINEER may invoice the amount due based on the percentage of total Work Order services actually performed and completed; but, in no event, shall the invoice amount exceed a percentage of the Fixed Fee amount equal to a percentage of the total services actually completed. The COUNTY shall pay the ENGINEER ninety percent (90%) of the approved amount on Work Orders issued on a "Fixed Fee Basis".

(e) For Work Orders issued on a "Time Basis Method" with a Not-to-Exceed amount, the ENGINEER may invoice the amount due for actual

work hours performed but, in no event, shall the invoice amount exceed a percentage of the Not-to-Exceed amount equal to a percentage of the total services actually completed. The COUNTY shall pay the ENGINEER ninety percent (90%) of the approved amount on Work Orders issued on a "Time Basis Method" with a Not-to-Exceed amount.

(f) Each Work Order issued on a "Fixed Fee Basis" or "Time Basis Method" with a Not-to-Exceed amount shall be treated separately for retainage purposes. If the COUNTY determines that work is substantially complete and the amount retained is considered to be in excess, the COUNTY may, at its sole and absolute discretion, release the retainage or any portion thereof.

(g) For Work Orders issued on a "Time Basis Method" with a Limitation of Funds amount, the ENGINEER may invoice the amount due for services actually performed and completed. The COUNTY shall pay the ENGINEER one hundred percent (100%) of the approved amount on Work Orders issued on a "Time Basis Method" with a Limitation of Funds amount.

(h) Payments shall be made by the COUNTY to the ENGINEER when requested as work progresses for services furnished, but not more than once monthly. Each Work Order shall be invoiced separately. ENGINEER shall render to COUNTY, at the close of each calendar month, an itemized invoice properly dated, describing any services rendered, the cost of the services, the name and address of the ENGINEER, Work Order Number, Contract Number and all other information required by this Agreement.

The original invoice shall be sent to:

Director of County Finance
Seminole County Board of County Commissioners
Post Office Box 8080
Sanford, Florida 32772

A duplicate copy of the invoice shall be sent to:

Public Works Department, Stormwater Division
500 W. Lake Mary Blvd.
Sanford, Florida 32773

(i) Payment shall be made after review and approval by COUNTY within thirty (30) days of receipt of a proper invoice from the ENGINEER.

SECTION 8. GENERAL TERMS OF PAYMENT AND BILLING.

(a) Upon satisfactory completion of work required hereunder and, upon acceptance of the work by the COUNTY, the ENGINEER may invoice the COUNTY for the full amount of compensation provided for under the terms of this Agreement including any retainage and less any amount already paid by the COUNTY. The COUNTY shall pay the ENGINEER within thirty (30) days of receipt of proper invoice.

(b) The COUNTY may perform or have performed an audit of the records of the ENGINEER after final payment to support final payment hereunder. This audit would be performed at a time mutually agreeable to the ENGINEER and the COUNTY subsequent to the close of the final fiscal period in which the last work is performed. Total compensation to the ENGINEER may be determined subsequent to an audit as provided for in subsections (b) and (c) of this Section, and the total compensation so determined shall be used to calculate final payment to the ENGINEER. Conduct of this audit shall not delay final payment as provided by subsection (a) of this Section.

(c) In addition to the above, if federal funds are used for any work under the Agreement, the Department of Housing and Urban Development, the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any books, documents, papers, and records, of the ENGINEER which are directly pertinent to work performed under this Agreement for purposes of making audit, examination, excerpts and transcriptions.

(d) The ENGINEER agrees to maintain all books, documents, papers, accounting records and other evidences pertaining to work performed under this Agreement in such a manner as will readily conform to the terms of this Agreement and to make such materials available at the ENGINEER'S office at all reasonable times during the Agreement period and for five (5) years from the date of final payment under the contract for audit or inspection as provided for in subsections (b) and (c) of this Section.

(e) In the event any audit or inspection conducted after final payment, but within the period provided in paragraph (d) of this Section reveals any overpayment by the COUNTY under the terms of the Agreement, the ENGINEER shall refund such overpayment to the COUNTY within thirty (30) days of notice by the COUNTY.

SECTION 9. RESPONSIBILITIES OF THE ENGINEER.

(a) The ENGINEER shall be responsible for the professional quality, technical accuracy, competence, methodology, accuracy and the coordination of all of the following which are listed for illustration purposes and not as a limitation: documents, analysis, reports, data, plans, plats, maps, surveys, specifications, and any and all other services of whatever type or nature furnished by the ENGINEER under this Agreement. The ENGINEER shall, without additional compensation, correct or revise any errors or deficiencies in his plans, analysis, data, reports, designs, drawings, specifications, and any and all other services of whatever type or nature.

(b) Neither the COUNTY'S review, approval or acceptance of, nor payment for, any of the services required shall be construed to operate as a waiver of any rights under this Agreement nor of any cause of action arising out of the performance of this Agreement and the ENGINEER shall be and always remain liable to the COUNTY in accordance with

applicable law for any and all damages to the COUNTY caused by the ENGINEER'S negligent or wrongful performance of any of the services furnished under this Agreement.

SECTION 10. OWNERSHIP OF DOCUMENTS. All deliverable analysis, reference data, survey data, plans and reports or any other form of written instrument or document that may result from the ENGINEER'S services or have been created during the course of the ENGINEER'S performance under this Agreement shall become the property of the COUNTY after final payment is made to the ENGINEER.

SECTION 11. TERMINATION.

(a) The COUNTY may, by written notice to the ENGINEER terminate this Agreement or any Work Order issued hereunder, in whole or in part, at any time, either for the COUNTY'S convenience or because of the failure of the ENGINEER to fulfill its Agreement obligations. Upon receipt of such notice, the ENGINEER shall:

(1) immediately discontinue all services affected unless the notice directs otherwise, and

(2) deliver to the COUNTY all data, drawings, specifications, reports, estimates, summaries, and any and all such other information and materials of whatever type or nature as may have been accumulated by the ENGINEER in performing this Agreement, whether completed or in process.

(b) If the termination is for the convenience of the COUNTY, the ENGINEER shall be paid compensation for services performed to the date of termination. If this Agreement calls for the payment based on a Fixed Fee amount, the ENGINEER shall be paid no more than a percentage of the Fixed Fee amount equivalent to the percentage of the completion of work, as determined solely and conclusively by the COUNTY, contemplated by this Agreement.

(c) If the termination is due to the failure of the ENGINEER to fulfill its Agreement obligations, the COUNTY may take over the work and prosecute the same to completion by other Agreements or otherwise. In such case, the ENGINEER shall be liable to the COUNTY for all reasonable additional costs occasioned to the COUNTY thereby. The ENGINEER shall not be liable for such additional costs if the failure to perform the Agreement arises without any fault or negligence of the ENGINEER; provided, however, that the ENGINEER shall be responsible and liable for the actions of its subcontractors, agents, employees and persons and entities of a similar type or nature. Such causes may include acts of God or of the public enemy, acts of the COUNTY in either it's sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather; but, in every case, the failure to perform must be beyond the control and without any fault or negligence of the ENGINEER.

(d) If, after notice of termination for failure to fulfill its Agreement obligations, it is determined that the ENGINEER had not so failed, the termination shall be conclusively deemed to have been effected for the convenience of the COUNTY. In such event, adjustment in the Agreement price shall be made as provided in subsection (b) of this Section.

(e) The rights and remedies of the COUNTY provided for in this Section are in addition and supplemental to any and all other rights and remedies provided by law or under this Agreement.

SECTION 12. AGREEMENT AND WORK ORDER IN CONFLICT. Whenever the terms of this Agreement conflict with any Work Order issued pursuant to it, the Agreement shall prevail.

SECTION 13. EQUAL OPPORTUNITY EMPLOYMENT. The ENGINEER agrees that it will not discriminate against any employee or applicant for

employment for work under this Agreement because of race, color, religion, sex, age, disability, or national origin and will take steps to ensure that applicants are employed, and employees are treated during employment, without regard to race, color, religion, sex, age, disability, or national origin. This provision shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

SECTION 14. NO CONTINGENT FEES. The ENGINEER warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the ENGINEER to solicit or secure this Agreement and that it has not paid or agreed to pay any person, company, corporation, individual or firm, other than a bona fide employee working solely for the ENGINEER, any fee, commission, percentage, gift, or other consideration contingent upon or resulting from award or making of this Agreement. For the breach or violation of this provision, the COUNTY shall have the right to terminate the Agreement at its sole discretion, without liability and to deduct from the Agreement price, or otherwise recover, the full amount of such fee, commission, percentage, gift, or consideration.

SECTION 15. CONFLICT OF INTEREST.

(a) The ENGINEER agrees that it will not contract for or accept employment for the performance of any work or service with any individual, business, corporation or government unit that would create a conflict of interest in the performance of its obligations pursuant to this Agreement with the COUNTY.

(b) The ENGINEER agrees that it will neither take any action nor engage in any conduct that would cause any COUNTY employee to violate

the provisions of Chapter 112, Florida Statutes, relating to ethics in government.

(c) In the event that ENGINEER causes or in any way promotes or encourages a COUNTY officer, employee, or agent to violate Chapter 112, Florida Statutes, the COUNTY shall have the right to terminate this Agreement.

SECTION 16. ASSIGNMENT. This Agreement, or any interest herein, shall not be assigned, transferred, or otherwise encumbered, under any circumstances, by the parties hereto without prior written consent of the other party and in such cases only by a document of equal dignity herewith.

SECTION 17. SUBCONTRACTORS. In the event that the ENGINEER, during the course of the work under this Agreement, requires the services of any subcontractors or other professional associates in connection with services covered by this Agreement, the ENGINEER must first secure the prior express written approval of the COUNTY. If subcontractors or other professional associates are required in connection with the services covered by this Agreement, ENGINEER shall remain fully responsible for the services of subcontractors or other professional associates.

SECTION 18. INDEMNIFICATION OF COUNTY. The ENGINEER agrees to hold harmless, replace, and indemnify the COUNTY, its commissioners, officers, employees, and agents against any and all claim, losses, damages or lawsuits for damages, arising from, allegedly arising from, or related to the provision of services hereunder by the ENGINEER, whether caused by the ENGINEER or otherwise. This hold harmless, release and indemnification shall include any claim based on negligence, action or inaction of the parties.

SECTION 19. INSURANCE.

(a) GENERAL. The ENGINEER shall at the ENGINEER'S own cost, procure the insurance required under this Section.

(1) The ENGINEER shall furnish the COUNTY with a Certificate of Insurance signed by an authorized representative of the insurer evidencing the insurance required by this Section (Professional Liability, Workers' Compensation/Employer's Liability and Commercial General Liability). The COUNTY, its officials, officers, and employees shall be named additional insured under the Commercial General Liability policy. The Certificate of Insurance shall provide that the COUNTY shall be given not less than thirty (30) days written notice prior to the cancellation or restriction of coverage. Until such time as the insurance is no longer required to be maintained by the ENGINEER, the ENGINEER shall provide the COUNTY with a renewal or replacement Certificate of Insurance not less than thirty (30) days before expiration or replacement of the insurance for which a previous certificate has been provided.

(2) The Certificate shall contain a statement that it is being provided in accordance with the Agreement and that the insurance is in full compliance with the requirements of the Agreement. In lieu of the statement on the Certificate, the ENGINEER shall, at the option of the COUNTY submit a sworn, notarized statement from an authorized representative of the insurer that the Certificate is being provided in accordance with the Agreement and that the insurance is in full compliance with the requirements of the Agreement. **The Certificate shall have this Agreement number clearly marked on its face.**

(3) In addition to providing the Certificate of Insurance, if required by the COUNTY, the ENGINEER shall, within thirty (30) days after receipt of the request, provide the COUNTY with a certified copy

of each of the policies of insurance providing the coverage required by this Section.

(4) Neither approval by the COUNTY nor failure to disapprove the insurance furnished by a ENGINEER shall relieve the ENGINEER of the ENGINEER'S full responsibility for performance of any obligation including ENGINEER indemnification of COUNTY under this Agreement.

(b) INSURANCE COMPANY REQUIREMENTS. Insurance companies providing the insurance under this Agreement must meet the following requirements:

(1) Companies issuing policies other than Workers' Compensation, must be authorized to conduct business in the State of Florida and prove same by maintaining Certificates of Authority issued to the companies by the Department of Insurance of the State of Florida. Policies for Workers' Compensation may be issued by companies authorized as a group self-insurer by Section 440.57, Florida Statutes.

(2) In addition, such companies other than those authorized by Section 440.57, Florida Statutes, shall have and maintain a Best's Rating of "A" or better and a Financial Size Category of "VII" or better according to A.M. Best Company.

(3) If, during the period which an insurance company is providing the insurance coverage required by this Agreement, an insurance company shall: 1) lose its Certificate of Authority, 2) no longer comply with Section 440.57, Florida Statutes, or 3) fail to maintain the requisite Best's Rating and Financial Size Category, the ENGINEER shall, as soon as the ENGINEER has knowledge of any such circumstance, immediately notify the COUNTY and immediately replace the insurance coverage provided by the insurance company with a different insurance company meeting the requirements of this Agreement. Until such time as the ENGINEER has replaced the unacceptable insurer with an insurer accept-

able to the COUNTY the ENGINEER shall be deemed to be in default of this Agreement.

(c) SPECIFICATIONS. Without limiting any of the other obligations or liability of the ENGINEER, the ENGINEER shall, at the ENGINEER'S sole expense, procure, maintain and keep in force amounts and types of insurance conforming to the minimum requirements set forth in this subsection. Except as otherwise specified in the Agreement, the insurance shall become effective prior to the commencement of work by the ENGINEER and shall be maintained in force until the Agreement completion date. The amounts and types of insurance shall conform to the following minimum requirements.

(1) Workers' Compensation/Employer's Liability.

(A) The ENGINEER'S insurance shall cover the ENGINEER for liability which would be covered by the latest edition of the standard Workers' Compensation Policy, as filed for use in Florida by the National Council on Compensation Insurance, without restrictive endorsements. The ENGINEER will also be responsible for procuring proper proof of coverage from its subcontractors of every tier for liability which is a result of a Workers' Compensation injury to the subcontractor's employees. The minimum required limits to be provided by both the ENGINEER and its subcontractors are outlined in subsection (c) below. In addition to coverage for the Florida Workers' Compensation Act, where appropriate, coverage is to be included for the United States Longshoremen and Harbor Workers' Compensation Act, Federal Employers' Liability Act and any other applicable federal or state law.

(B) Subject to the restrictions of coverage found in the standard Workers' Compensation Policy, there shall be no maximum limit on the amount of coverage for liability imposed by the Florida Workers' Compensation Act, the United States Longshoremen's and Harbor

Workers' Compensation Act, or any other coverage customarily insured under Part One of the standard Workers' Compensation Policy.

(C) The minimum amount of coverage under Part Two of the standard Workers' Compensation Policy shall be:

$ 500,000.00	(Each Accident)
$1,000,000.00	(Disease-Policy Limit)
$ 500,000.00	(Disease-Each Employee)

(2) Commercial General Liability.

(A) The ENGINEER'S insurance shall cover the ENGINEER for those sources of liability which would be covered by the latest edition of the standard Commercial General Liability Coverage Form (ISO Form CG 00 01), as filed for use in the State of Florida by the Insurance Services Office, without the attachment of restrictive endorsements other than the elimination of Coverage C, Medical Payment and the elimination of coverage for Fire Damage Legal Liability.

(B) The minimum limits to be maintained by the ENGINEER (inclusive of any amounts provided by an Umbrella or Excess policy) shall be as follows:

	LIMITS
General Aggregate	$Three (3) Times the Each Occurrence Limit
Personal & Advertising Injury Limit	$1,000,000.00
Each Occurrence Limit	$1,000,000.00

(3) Professional Liability Insurance. The ENGINEER shall carry limits of not less than ONE MILLION AND NO/100 DOLLARS ($1,000,000.00).

(d) COVERAGE. The insurance provided by ENGINEER pursuant to this Agreement shall apply on a primary basis and any other insurance or self-insurance maintained by the COUNTY or the COUNTY'S officials, officers, or employees shall be excess of and not contributing with the

insurance provided by or on behalf of the ENGINEER.

(e) OCCURRENCE BASIS. The Workers' Compensation Policy and the Commercial General Liability required by this Agreement shall be provided on an occurrence rather than a claims-made basis. The Professional Liability insurance policy must either be on an occurrence basis, or, if a claims-made basis, the coverage must respond to all claims reported within three (3) years following the period for which coverage is required and which would have been covered had the coverage been on an occurrence basis.

(f) OBLIGATIONS. Compliance with the foregoing insurance requirements shall not relieve the ENGINEER, its employees or agents of liability from any obligation under a Section or any other portions of this Agreement.

SECTION 20. ALTERNATIVE DISPUTE RESOLUTION (ADR).

(a) In the event of a dispute related to any performance or payment obligation arising under this Agreement, the parties agree to exhaust COUNTY ADR procedures prior to filing suit or otherwise pursuing legal remedies. COUNTY ADR procedures for proper invoice and payment disputes are set forth in Section 55.1, "Prompt Payment Procedures," Seminole County Administrative Code. Contract claims include all controversies, except disputes addressed by the "Prompt Payment Procedures," arising under this Agreement with ADR procedures set forth in Section 220.102, "Contract Claims," Seminole County Code.

(b) ENGINEER agrees that it will file no suit or otherwise pursue legal remedies based on facts or evidentiary materials that were not presented for consideration in the COUNTY ADR procedures set forth in subsection (a) above of which the ENGINEER had knowledge and failed to present during the COUNTY ADR procedures.

(c) In the event that COUNTY ADR procedures are exhausted and a suit is filed or legal remedies are otherwise pursued, the parties shall exercise best efforts to resolve disputes through voluntary mediation. Mediator selection and the procedures to be employed in voluntary mediation shall be mutually acceptable to the parties. Costs of voluntary mediation shall be shared equally among the parties participating in the mediation.

SECTION 21. REPRESENTATIVES OF THE COUNTY AND THE ENGINEER.

(a) It is recognized that questions in the day-to-day conduct of performance pursuant to this Agreement will arise. The COUNTY, upon request by the ENGINEER, shall designate in writing and shall advise the ENGINEER in writing of one (1) or more of its employees to whom all communications pertaining to the day-to-day conduct of this Agreement shall be addressed. The designated representative shall have the authority to transmit instructions, receive information and interpret and define the COUNTY'S policy and decisions pertinent to the work covered by this Agreement.

(b) The ENGINEER shall, at all times during the normal work week, designate or appoint one or more representatives of the ENGINEER who are authorized to act in behalf of and bind the ENGINEER regarding all matters involving the conduct of the performance pursuant to this Agreement and shall keep the COUNTY continually and effectively advised of such designation.

SECTION 22. ALL PRIOR AGREEMENTS SUPERSEDED. This document incorporates and includes all prior negotiations, correspondence, conversations, agreements or understandings applicable to the matters contained herein and the parties agree that there are no commitments, agreements or understandings concerning the subject matter of this Agreement that are not contained or referred to in this document.

Accordingly, it is agreed that no deviation from the terms hereof shall be predicated upon any prior representations or agreements, whether oral or written.

SECTION 23. MODIFICATIONS, AMENDMENTS OR ALTERATIONS. No modification, amendment or alteration in the terms or conditions contained herein shall be effective unless contained in a written document executed with the same formality and of equal dignity herewith.

SECTION 24. INDEPENDENT CONTRACTOR. It is agreed that nothing herein contained is intended or should be construed as in any manner creating or establishing a relationship of co-partners between the parties, or as constituting the ENGINEER (including its officers, employees, and agents) the agent, representative, or employee of the COUNTY for any purpose, or in any manner, whatsoever. The ENGINEER is to be and shall remain forever an independent contractor with respect to all services performed under this Agreement.

SECTION 25. EMPLOYEE STATUS. Persons employed by the ENGINEER in the performance of services and functions pursuant to this Agreement shall have no claim to pension, workers' compensation, unemployment compensation, civil service or other employee rights or privileges granted to the COUNTY'S officers and employees either by operation of law or by the COUNTY.

SECTION 26. SERVICES NOT PROVIDED FOR. No claim for services furnished by the ENGINEER not specifically provided for herein shall be honored by the COUNTY.

SECTION 27. PUBLIC RECORDS LAW. ENGINEER acknowledges COUNTY'S obligations under Article I, Section 24, Florida Constitution and Chapter 119, Florida Statutes, to release public records to members of the public upon request. ENGINEER acknowledges that COUNTY is required to comply with Article I, Section 24, Florida Constitution and Chapter

119, Florida Statutes, in the handling of the materials created under this Agreement and that said statute controls over the terms of this Agreement.

SECTION 28. COMPLIANCE WITH LAWS AND REGULATIONS. In providing all services pursuant to this Agreement, the ENGINEER shall abide by all statutes, ordinances, rules, and regulations pertaining to, or regulating the provisions of, such services, including those now in effect and hereafter adopted. Any violation of said statutes, ordinances, rules, or regulations shall constitute a material breach of this Agreement, and shall entitle the COUNTY to terminate this Agreement immediately upon delivery of written notice of termination to the ENGINEER.

SECTION 29. NOTICES. Whenever either party desires to give notice unto the other, it must be given by written notice, sent by registered or certified United States mail, with return receipt requested, addressed to the party for whom it is intended at the place last specified and the place for giving of notice shall remain such until it shall have been changed by written notice in compliance with the provisions of this Section. For the present, the parties designate the following as the respective places for giving of notice, to-wit:

FOR COUNTY:

Public Works Department, Stormwater Division
500 W. Lake Mary Blvd.
Sanford, Florida 32773

FOR ENGINEER:

Inwood Consulting Engineers, Inc.
870 Clark St.
Oviedo, Florida 32765

SECTION 30. RIGHTS AT LAW RETAINED. The rights and remedies of the COUNTY, provided for under this Agreement, are in addition and supplemental to any other rights and remedies provided by law.

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement on the date below written for execution by the COUNTY.

ATTEST:

_____
, Secretary

(CORPORATE SEAL)

INWOOD CONSULTING ENGINEERS, INC.

By:_____
DAVID G. COLEMAN, Vice-President

Date:_____

ATTEST:

BOARD OF COUNTY COMMISSIONERS
SEMINOLE COUNTY, FLORIDA

_____
MARYANNE MORSE
Clerk to the Board of
County Commissioners of
Seminole County, Florida.

By:_____
DARYL G. MCLAIN, Chairman

Date:_____

For use and reliance
of Seminole County only.

Approved as to form and
legal sufficiency.

As authorized for execution by
the Board of County Commissioners
at their _____, 20___
regular meeting.

_____
County Attorney

AC/lpk
7/14/04
ps-5163

Attachments:
Exhibit "A" - Scope of Services
Exhibit "B" - Sample Work Order
Exhibit "C" - Rate Schedule

EXHIBIT (A)

Draft Scope of Work
Engineering Study, Inventory, and Design for the Saint Johns and Lake Harney Basins

The following is the Scope of Services required to fulfill the work products needed by Seminole County for the engineering study, inventory, design, and permitting of drainage facilities for the Saint Johns and Lake Harney Basins. The Scope of Services has been divided into four phases. Phase I will include design and permitting of current define deficiencies along Mullet Lake Park Road. Phase II will address the combined basins wide system inventory, accompanied by the review of all the existing engineering plans and studies, from which the drainage patterns and existing drainage structures will be identified. Phase III will provide the engineering analysis to determine the drainage system capacity and demands; establish the prioritized deficiency correction recommendations accompanied by the preparation of all related basin maps, reports, and permits. Phase IV will include preparing documents required for the implementation of the approved Basin Master Plan based on the results of Phase III.

In addition to the individual tasks and phases, the Consultant shall be required to provide on-going professional services on an as-when-and-needed basis to address miscellaneous stormwater related issues within the basin as they may arise through the life of the Contract. The Consultant shall be required to provide public presentations and informational meetings at specific stages of completion for the individual phases.

The following is a brief summary of the intended study development which is followed by individual phases and tasks. The stated tasks for the Scope of Services are required to fulfill the work products needed by Seminole County for the engineering study, inventory, design, and permitting of drainage facilities for these basins. Phases will (at the County's discretion) be initiated by Work Order.

PHASE I

- Review the "Mullet Lake Park Road Outfall Study" – February 2004, prepared by Inwood Consulting Engineers, and other pertinent information for these basins.
- Prepare documents and permits required for the implementation of the proposed improvements. Tasks will include, but not be limited to, final design and construction drawings, right-of-way maps, bid documents, construction permits, construction administration and public information materials.

PHASE II

- Gather pertinent data and review the documented hydrologic/hydraulic characteristics, wetlands and wildlife habitats, and surface and ground water quality and quantity.
- Investigate, survey, and inventory existing drainage and stormwater management systems.
- Develop the mapping of the stormwater system on a computerized data base.

PHASE III

- Evaluate existing capacity and future demand of the drainage systems by establishing the proper level of service, identify problems areas, and determine the system deficiencies based upon Federal, State, regional and local criteria.
- Develop alternative solutions (structural and non-structural) and provide recommendations for eliminating the system deficiencies.
- Develop flood hazard avoidance programs and analyze their impacts.
- Develop the basin master plan and establish improvement prioritization with individual preliminary engineering cost estimates.
- Develop water quality and wetland investigations, including the update of the Pollutant Loading Model for the Basin, incorporate elements from the County Natural Lands Program, and evaluate their impacts.
- Provide a long term calibration plan for the future updates to the Study.
- Prepare, submit, and obtain permit approval from all necessary regulatory agencies.

- Prepare, submit, and obtain approval by the Federal Emergency Management Agency (FEMA) for a physical map revision of the associated flood plain.

PHASE IV

- Prepare documents and permits required for the implementation of the approved basin master plan. Tasks will include, but not be limited to, final design and construction drawings, right-of-way maps, bid documents, construction permits, construction administration and public information materials.
- Prepare, submit, and obtain permit approval from all necessary regulatory agencies.

PHASE I
CURRENT DEFICIENCY CORRECTIONS

TASK 1. Initiate Project and Implement Corrections for Currently Defined Deficiencies

Undertake and begin conducting the project as described in the Agreement, supplying the necessary personnel, essential equipment, and facilities to accomplish the objectives stated therein. Review the "Mullet Lake Park Road Outfall Study" – February 2004, prepared by Inwood Consulting Engineers, and other pertinent information for these basins. The Consultant shall prepare documents and permits required for the implementation of the proposed improvements. Tasks will include, but not be limited to, final design and construction drawings, right-of-way maps, bid documents, construction permits, and public information materials.

TASK 2. Ongoing Services

The Consultant shall provide professional services on an as-when-and-needed basis relating to miscellaneous stormwater issues as they may arise through the life of the Master Contract. Services will be provided on a cost-not-to-exceed basis using a Rate Schedule as approved with this Contract. No actual work is authorized until and unless so directed in writing by Seminole County.

PHASE II
SYSTEM INVENTORY

TASK 1. Data Collection

Gather pertinent data related to the Basin from Federal, State, Regional, and Local agencies.

TASK 2. Data Review

All data collected in Phase II, Task 1 shall be reviewed to determine the significance of the information at hand relative to defining the hydrologic/hydraulic characteristics, wetlands and wildlife habitats, and surface and ground water quality and quantity within the watershed area. This review, coupled with the field reconnaissance of Task 3, will assist in finalizing the field survey requirements for this study.

TASK 3. Data Inventory

Investigate and inventory existing drainage and stormwater management systems within the Basin. The inventory shall detail the structures, cross-sections and outfalls found during Tasks 1 and 2 and as encountered during field reconnaissance as required under this task. All field inventory and survey data shall be stored on a computerized data base system, which shall locate and describe the existing stormwater management facilities.

TASK 4. Mapping

Develop overall mapping of the watershed for the Basin. Maps will reflect information from the data collection and review, field reconnaissance and inspection, and field surveys. Data base inventory and mapping shall be linked to enable the County to call up data base information regarding a particular structure or cross-section from the mapping.

TASK 5. Public Presentations

The Consultant shall assist Seminole County and provide Public Presentations for the purpose of presenting the Study intent and findings from Tasks 1 and 2. Part of the public presentation shall include handout pamphlets and graphic displays as provided by the Consultant and approved by the County. Presentations shall afford local input of concerns and issues. Consultant shall provide to Seminole County written minutes and audio tape of presentations.

TASK 6. Phase II Report and Deliverables

Deliver to Seminole County the computer peripherals, software, and training necessary to review, update, maintain, and utilize the intended study deliverables. Deliver to Seminole County, upon completion of Phase II, a written report, limited to fifteen (15) pages, addressing all aspects of the project with specific attention to Tasks 2 and 5, above. Eight (8) copies are required with supporting documentation to include Maps of the Basin, Photographic Inventory Books, Computer Data Base, and Field Survey Log Books.

TASK 7. Phase II Meetings and Coordination

Upon receipt of written authorization of the County, the Consultant shall provide the specific services as related not later than ____ calendar days from the date of authorization. Monthly meetings will be held with Seminole County staff to discuss the project's progress and/or problems. Minutes of these meetings will be supplied by Consultant to the County for review. Deviations from the established project schedule of more than one week will be scrutinized, and must be explained with corrective actions identified. Revised schedules will be required when deviations occur.

PHASE III
ENGINEERING ANALYSIS

TASK 1. Engineering Criteria & Model Development

A. Prepare appropriate nodal network schematics for each of the drainage systems in the Basin. The schematics shall be compatible with latest adICPR version, approved by FEMA. All appropriate modeling parameters shall be developed, prepared and input to the program.

B. Each structure and drainage system shall be categorized as to its function (i.e., roadway, retention/detention, etc.) and the appropriate design criteria shall be assigned for analysis purposes. Rates and volumes of stormwater runoff for each system for the appropriate storm events shall be determined using the SJRWMD rainfall volumes and distributions.

TASK 2. Engineering Analysis & Design

A. Continuous Simulation Model - The analysis based on long term hydrologic simulation shall provide a determination of the appropriate normal water levels, initial water surface elevations, base flow, and various tailwater elevations for the design storm event stages and discharges in the adICPR modeling. As a minimum, the analysis shall provide determinations relevant to the Mean Annual, 10-year, 25-year, 50-year, and 100-year design storm event frequencies. The level of geotechnical/hydrogeological investigations and continuous simulation analysis for individual sub-basins may vary throughout the Basin.

B. AdICPR Models - The Consultant shall provide modeling scenarios for an Existing Model, Design Model, Interim Model, Ultimate Design Model, and Ultimate Final Model. The latest adICPR version, approved by FEMA, shall be used.

C. Flood Hazard Avoidance Program - The Consultant shall prepare a Flood Hazard Avoidance Program in Order to establish an operational procedure to reduce the frequency of flooding in "closed" or "limited" discharge capacity Sub-basins within the Study watershed. The investigation shall include the establishment of protocols for sub-basin management and an assessment of impacts on the overall watershed. The Consultant will then determine the frequency of any hazard

and the type of management integration required to reduce the extent, duration, and/or frequency of the hazard.

TASK 3. Water Quality and Wetland Investigations

The Consultant shall address Water Quality and Wetland Impacts in the Final Report. The Consultant shall identify areas of concern to water quality, wetlands, utilization of natural systems, etc. The analysis should be a guide to future users of report not to contribute or create impacts to sensitive environmental areas within the watershed. Additionally, the Consultant shall review and update the Water Quality Pollutant Load Analysis Model (PBSJ 2002) for the Saint Johns and Lake Harney Basins. This should include assessments of any water bodies or water body segments listed as "impaired" by FDEP, per the Impaired Waters Rule.

TASK 4. Calibration Plan

The Consultant shall provide a separate section in report identifying locations for minimum permanent placement of rainfall and lake/stream gages in order to validate the model and be able to modify model parameters, if necessary, at some future time for more definitive and predictable modeling. The Consultant shall also identify specific areas within the Basin requiring greater attention in future updates to the model.

TASK 5. Develop a Basin Master Plan based on the Task 2 - Engineering Analysis & Design

The Consultant shall recommend conceptual solutions for stormwater deficiencies, the needs for right-of-way and easements, meet with appropriate regulatory agencies and municipalities, prepare a capital improvements prioritization list, provide analysis to insure in developing the improvement that phased improvements will not cause adverse impacts either upstream or downstream, and prepare Conceptual Cost Estimates for each basin improvement. The cost estimate will include final design services, land acquisition, construction, and materials. All conceptual solutions shall also include an estimated pollution load reduction.

TASK 6. Public Presentation and Informational Meetings

The Consultant shall assist Seminole County and provide Public Presentations for the purpose of presenting the Study. Part of the public presentation preparation shall include handout pamphlets and graphic displays as provided by the Consultant and approved by the County. Presentations shall afford local input of concerns and issues during two discrete stages of Phase III. The first presentation shall occur after completion of adICPR Existing Model and identification of preliminary proposed improvements as required under Task 2. The second presentation shall occur prior to permitting as required under Task 7. Consultant shall provide to Seminole County written minutes and audio tape of presentations.

TASK 7. Permitting

The Consultant shall meet with regulatory staff and review reports. Regulatory Agencies would include, but not limited to, SJRWMD and FEMA.

TASK 8. Phase III Report & Deliverables

The Consultant shall deliver to the County a Draft Preliminary Report; a Draft Final Report, the Final Engineering Study and Drainage Inventory for the Basin, and a brief public information pamphlet.

TASK 9. Phase III Meetings and Coordination

Upon receipt of written authorization of the County, the Consultant shall provide the specific services as related not later than ____ calendar days from the date of authorization. Monthly meetings will be held with Seminole County staff to discuss the project's progress and/or problems. Minutes of these meetings will be supplied by Consultant to the County for review. Deviations from the established project schedule of more than one week will be scrutinized, and must be explained with corrective actions identified. Revised schedules will be required when deviations occur.

PHASE IV

DEFICIENCY CORRECTION

Phase IV will include preparing documents required for the implementation of the approved basin master plan based on the results of Phase III. The County recognizes that exact activities required in the final Phase IV are not known as of the effective date of this contract. Final scope of services for projects within Phase IV will be negotiated for each individual project, as requested after completion of Phase III. For completeness in this contract, a basic scope of services is initially included in the attached "Consultant Guidelines for Proposed Scope of Work."

TASK 1. Deficiency Correction

Prepare documents and permits required for the implementation of the approved basin master plan. Tasks will include, but not be limited to, final design and construction drawings, right-of-way maps, bid documents, construction permits, and public information materials. Prepare, submit, and obtain permit approval from all necessary regulatory agencies.

Consultant Guidelines for Proposed Scope of Work
Engineering Study & Drainage Inventory for the Saint Johns and Lake Harney Basins

The purpose of the Consultant Guidelines is to establish preferred methodology and specific deliverables to satisfy the Contract. Upon final acceptance by County and Consultant, the Guidelines will be attached to the Contract with the man-hour and fee proposal. Specific issues as outlined in the Guidelines shall not supersede the intent of the individual items as shown in the Scope of Work.

PHASE I
CURRENT DEFICIENCY CORRECTIONS

TASK 1. Initiate Project and Deficiency Correction

Undertake and begin conducting the deficiency correction project as described in the Agreement, supplying the necessary personnel, essential equipment, and facilities to accomplish the objectives stated therein. Review the "Mullet Lake Park Road Outfall Study" – February 2004, prepared by Inwood Consulting Engineers, and other pertinent information for these basins. The Consultant shall prepare 60, 90 and 100% design documents and permits required for the implementation of the proposed improvements. Tasks will include, but not be limited to, final design and construction drawings, right-of-way maps, bid documents, construction permits, construction administration, and public information materials.

A. Design: The Consultant shall prepare 60, 90 and 100% design documents and permits required for the implementation of the proposed improvements. At each step (60, 90 and 100%), documents shall be submitted to the County (five (5) copies) for review and approval prior to proceeding.

B. Permitting: SJRWMD - The Consultant shall prepare and submit an ERP application to include responses as may be required under RAI's and attendance at Governing Board Hearings. The following tasks will be performed by the Consultant:

   i. Attend Pre-Application Meeting (1 meeting) with SJRWMD.

   ii. Prepare application to SJRWMD to consist of:

      a. Cover letter outlining Seminole County's understanding of the project and a summary of the content of the study in a format consistent with the SJRWMD Applicant's Handbook sections to assist SJRWMD staff in their review;

      b. Five (5) copies of the Study (to be provided by Consultant);

c. Five (5) copies of the drainage calculations: adICPR input/output files (hard copy) and associated support material;

d. Five (5) sets of computer disks with adICPR model input/output data, and

e. Five (5) sets of wetland mitigation plan (as required).

iii. Provide coordination and follow-up services in response to SJRWMD as it applies to clarification only. This will consist of no more than three (3) meetings, and preparation for those meetings, with SJRWMD, to include attendance at the Board Hearing, and no more than three (3) RAI meetings with the County. No additional studies, investigations or analyses are anticipated or included with this fee and scope estimate.

Provide one (1) copy of the permit package to Seminole County.

C. Construction administration: the consultant shall:
   i. Develop Cost estimate,
   ii. Attend pre-construction meeting,
   iii. Assist with bid solicitation, evaluation and selection,
   iv. Review and approve shop drawings, and
   v. Provide design technical assistance.

TASK 2. Ongoing Services

The Consultant shall provide professional services on an as-when-and-needed basis relating to miscellaneous stormwater issues as they may arise through the life of the Master Contract. Services will be provided on a cost-not-to-exceed basis using a Rate Schedule as approved with this Contract. No actual work is authorized until and unless so directed in writing by Seminole County

PHASE II
SYSTEM INVENTORY

TASK 1. Data Collection

Gather pertinent data related to the Basin from Federal, State, Regional, and Local agencies including, but not limited to Seminole County, Lake County, Volusia County, Seminole County Municipalities, St Johns River Water Management District (SJRWMD), Florida Department of Environmental Protection (DEP), US Army Corps of Engineers (ACOE), Federal Emergency Management Agency (FEMA), Florida Department of Transportation (FDOT), East Central Florida Regional Planning Council (ECFRPC), U.S. Weather Bureau, Florida Natural Area Inventory (FNAI), U.S. Fish and Wildlife Service (USFWS), and the Florida Game and Fresh Water Fish Commission (FGFWFC). Information collected will include, but not be limited to:

A. Planning & Development

   i. Seminole County's Comprehensive Plan Basic Study - Stormwater Management Study (1989).

   ii. Rules, regulations, ordinances and laws (local, state, and federal) pertinent to the watershed.

   iii. Seminole County's most recent Comprehensive Plan Updates.

   iv. Seminole County's most recent Existing and Future Land Use Inventories. Information will include DRI's, PUD's, EIS's, EA's, major subdivision plats, and other large developments approved by County.

   v. Construction plans (either design or as-built based on status) and survey information in Seminole County and applicable municipalities.

vi. FDOT, Seminole County, and applicable municipality roadway construction plans and survey information.

B. Hydrology and Hydraulics

i. Seminole County Drainage Atlas.

ii. Engineering Studies of the region to include, but not limited to, SCS, USGS, SJRWMD, County, Cities, and Private Development Master Plans

iii. Federal Emergency Management Agency's most recent Flood Insurance Studies and Rate Maps for the watershed.

iv. Documentation of past flooding complaints.

v. Local rainfall records including but not limited to Daily Rainfall for the Sanford Experimental Station and NOAA Monthly Pan Evaporation for the Lisbon Station.

vi. Historical Lake stage data.

vii. Stream stage/discharge data.

C. Environmental Data

i. The County's Environmental Protection Agency NPDES MS4 Permit and application.

ii. Existing water quality data for lakes, rivers, creeks, etc...

iii. Existing and potential wildlife habitats and natural vegetative area inventories.

iv. National Wetlands Inventory (NWI) and the Florida Land Use Cover and Classification System Maps (FLUCCS).

v. Archeological resources.

D. Geotechnical Data

i. The **Soil Conservation Service's** most recent Soil Survey of Seminole County.

ii. Regional leakance and recharge rates.

iii. Potentiometric data for the Floridan Aquifer.

iv. Irrigation practices.

v. Effluent disposal rates.

E. Survey and Right-of-Way Data

i. Seminole County's most recent Vertical Control Points & Elevations and associated Map.

ii. Aerial and topographical aerial maps available from Seminole County, Orange County, SJRWMD, FDOT, and other local sources.

iii. Seminole County's plats, right-of-way maps, and easements of record.

TASK 2. Data Review

All data collected in Phase II, Task 1 shall be reviewed to determine the significance of the information at hand relative to defining the hydrologic/hydraulic characteristics, wetlands and wildlife habitats, and surface and ground water quality and quantity within the watershed area. This review, coupled with the field reconnaissance of Task 3, will assist in finalizing the field survey requirements for this study. Evaluation of the collected information shall include but not be limited to:

A. Hydrology & Hydraulics Review

i. Drainage basin and sub-basin delineation of the watershed.

ii. Identification of landlocked sub-basins (lakes and other depressional areas) and associated lakes and channels, which are controlled by "closed" or "limited" outfall capacity.

iii. Determine existing retention/detention systems designated as being of significance from reports, plans, and maps.

iv. Existing natural systems relative to flood attenuation and minimum levels.

v. Existing and Future Land Use Conditions.

vi. Soil types, hydrologic soils group, and land cover.

vii. Boundary conditions (stage/discharge), flow patterns, and time of concentration.

viii. Identification of primary (30" Dia. Pipe) and secondary (18" and < 30" Dia. Pipe) structures.

ix. Identification of additional survey requirements for the watershed drainage system.

x. Identification of future developments and their impacts to the intended basin modeling.

B. Environmental Review

i. Ground truthing FLUCCS or NWI maps.

ii. Provide focal species analysis relevant to upland and wetland habitat viability.

iii. Evaluate wetlands for their application to flood attenuation and water quality.

iv. Evaluate surface water quality data for consideration of a water quality monitoring program.

v. Evaluate ground water quality data for consideration of flood hazard avoidance plans.

vi. Identify mitigation sites and natural lands for possible flood attenuation, protection, or enhancement.

Upon completion of Task 2 - Data Review, prepare a short report (limited to five pages) and submit three (3) copies for review by County. All relevant information found during the Data Review shall be shown on mark-ups of aerial topo base maps. Land use, soils, and wetland/wildlife maps may be submitted separate from the aerial topo base maps. Schedule and hold interview with County staff to determine if additional information is available and/or needed.

TASK 3. Data Inventory

Investigate and inventory existing drainage and stormwater management systems within the Basin. The inventory shall detail the structures, cross-sections and outfalls found during Tasks 1 and 2 and as encountered during field reconnaissance as required under this task. All field inventory and survey data shall be stored on a computerized data base system, which shall locate and describe the existing stormwater management facilities. Specific tasks to be completed under this inventory are as follows:

A. Information notices to inform private citizens, public officials and agencies of the impending work, prepared by Consultant and approved by Seminole County shall be hand carried by representatives of Consultant and its sub-contractors during field investigations and surveys.

B. Perform field reconnaissance and inspection of all structures, cross-sections, conveyances, designated retention/detention facilities, and outfalls. Make visual inspection and provide field report sheets noting condition and providing color photographs. Observed scour, physical deficiencies, and other environmental problems shall also be reported. Field reconnaissance and inspection shall extend upstream to the outfall structure of a given subdivision and shall not be required beyond unless designated as being of significance. Field verify boundaries and sub-boundaries.

Amend the list of structures, cross-sections, outfalls, lakes, etc. to be field surveyed as may be required. Submit draft list, mark-up aerial topo base maps, and fee estimate for survey and inventory to County for approval.

C. Perform field survey of all specific stormwater structures and channel reaches as determined by the field reconnaissance and approved by Seminole County. The survey shall:

i. Provide locations to include basin and sub-basin identifications; relative stationing; geographic reference to road or other physical feature; township, range, and section number; and County Commissioner District number.

ii. Recover and use previously established vertical control that was used and is described in notes and current publications to be supplied by Seminole County. This vertical control will be accepted as being accurate and the existence of these vertical control points is a premise by which the fee estimate shall be based. Wherever practical at least two (2) known vertical points will be used for all work to be performed. If no vertical control is available within one (1) mile of the project task area, Seminole County shall be requested to establish a vertical control run to the project area.

iii. Horizontal control shall be provided by GPS and coordinates added to the Inventory Log Books.

iv. Survey and detail an estimated ____ structures (bridges, culverts, outfalls, and pipe systems), including the structures designated in the Seminole County Stormwater Management Study. Cross-sections will be taken upstream and downstream at each structure. The total number of structures to be surveyed and inventoried shall be determined under Task 3B. Survey shall include, but not be limited to:

a. Identification as Primary or Secondary.

b. Number of structure.

c. Length of structure.

d. Size (span and rise) of structure.

e. Material of structure.

f. Invert elevations of structure.

g. Flowline elevation of channel immediately upstream and downstream of structure.

h. Elevation of minimum road crown over structure.

i. Low chord elevation for bridge structures.

j. Weir crest length and elevation for culvert risers or culvert drop inlets.

k. Other Systems (weirs, overflow spillways, etc.)

(1) Weir or spillway crest elevation.

(2) Weir or spillway crest shape (rectangular, trapezoidal, etc.).

(3) Weir or spillway crest length.

(4) Top of weir/spillway elevation and width of opening.

v. Survey and detail an estimated ____ cross-sections in the primary channels and major tributary flow paths. The selection of the section locations will be based on characteristics of the channels and anticipated modeling needs. The total number of cross-sections and approximate stationing shall be determined under Task 3B. All sections will extend 50 feet beyond the top of existing bank on each side and at least two (2) permanent markers (iron pipes or rebars) will be set at the existing top of bank for location and future recovery. No attempt shall be made to tie positions horizontally to existing property lines or reference points. Survey shall include, but not be limited to:

a. Natural ground elevation

b. Top of bank elevation and width

c. Bottom of channel elevation (flowline elevation) and width

vi. Survey existing water surface elevations for approximately ____ named lakes (as shown on USGS Quadrangle Maps or as listed in Seminole County's Lake Level Inventory) located within the Basin Study area. The total number of lakes to be surveyed and inventoried shall be determined under Task 3B. Survey shall include, but not be limited to:

a. Existing water surface elevation and date found.

b. Type of outfall system (open, closed, landlocked).

c. Cross-section data for open outfall; structure data for closed outfall.

vii. Condition, maintenance responsibility, and easement or right of way reference.

D. All the field inventory and survey data shall be stored on a computerized data base system, which shall locate and describe the existing stormwater management facilities with the County's numbering system and also by basin, reach, County Commission District, and by section, township, and range. The system shall conform to the existing numbering system as determined by County to correspond with the County Public Works Department's Inventory of County roads and structures. Survey information obtained shall include the data outlined and be in the format and form indicated herein. The data base system shall be compatible with the existing County computer system and be easily accessible for future update and expansion.

i. Reduce all field notes. Information provided in data base shall include, but not be limited to, the following information.

a. Non-structural - (Open Systems)

(1) Cross-section #.

(2) Location and jurisdictional authority.

(3) Width and length.

(4) Flow line profile.

(5) Cross-sectional information.

b. Structural - (Closed Systems)

(1) Structure #.

(2) Location and jurisdictional authority.

(3) Length, type, and size.

(4) Inverts.

(5) Maintenance condition and responsibility.

(6) Drainage easement and/or right-of-way.

ii. Coordinate with County staff to insure that information to be transferred to the County will be compatible with the County's computer system.

iii. Summarize, rearrange and supplement field survey data, field reconnaissance information, photo inventory, and data from other sources. Put in draft inventory form including diskette(s) and printout, and submit to County. Receive County review and modify and supplement.

TASK 4. Mapping

Develop overall mapping of the watershed for the Basin. Maps will reflect information from the data collection and review, field reconnaissance and inspection, and field surveys. Data base inventory and mapping shall be linked to enable the County to call up data base information regarding a particular structure or cross-section from the mapping.

Mapping will be provided in color with individual Sub-Basins consistent in a scale necessary for legibility. Mapping will be bound separately from report on 24"x36" sheets. Mapping will be in the order as follows and will include:

A. Basin Base Map featuring watershed boundaries and identifications for the Basin and Sub-Basins, Links to adjacent Major Basins, township/range/section lines, County Commission District Number, Municipal Jurisdictions, Unincorporated Communities, roadway systems, lakes, rivers, streams, canals, landlocked sub-basins, and other pertinent features. This map may deviate from common scale of Sub-Basin Maps. Intent is to provide an overall depiction of the watershed. Particular attention will be paid to the common boundary with adjacent basins. This action will insure that gaps and overlap areas are not incorporated into the final mapping effort. Any significant variations with adjacent basins will be resolved with concurrence from Seminole County staff.

B. Existing Studies Map delineating Study Boundaries and identifying applicable reference and date. Map shall be same scale as Basin Base Map, Task 4A.

C. Existing FEMA Map at same scale as Basin Base Map, Task 4A.

D. Individual Sub-Basins - All mapping for this effort shall be consistent in scale and common features.

i. Existing Conditions Map featuring Sub-Basin and Nodal Basins, Nodal and Reach symbols with numeric ID and links, flow paths, adjacent Sub-Basins with reach links, and any other pertinent features. Numeric ID's and links shall be shown for inventoried structures and cross-sections with proper numbering system consistent with all intended computer model designations, using the original Basin Identification Number as defined in the 1989 Seminole County Stormwater Management Study as a root (e.g. Yankee Lake is #1). Known problem areas and any active/proposed construction (Approved Permit) in the Basin shall be shown and identified.

ii. Contoured Aerial with date as supplied by Seminole County. Identify lakes by name and provide historical high and low water elevations, rivers, creeks, roads, and Seminole County properties and easements.

iii. Most recent SCS Soil Survey with date and Data Tables relevant to Study.

iv. Environmental Features Map to include Wetlands Inventory, Wildlife Habitats, Water Quality Assessments, Natural Lands, and Mitigation Areas.

v. Existing Land Use Map.

vi. Future Land Use Map.

TASK 5. Public Presentations

The Consultant shall assist Seminole County and provide Public Presentations for the purpose of presenting the Study intent and findings from Tasks 1 and 2. Part of the public presentation shall include handout pamphlets and graphic displays as provided by the Consultant and approved by the County. Presentations shall afford local input of concerns and issues. Consultant shall provide to Seminole County written minutes and audio tape of presentations.

A. Municipalities - The Consultant shall provide a presentation to all municipalities within the Basin or affected by the intended study. Presentation shall include inventory findings, intended modeling, and known problem areas.

B. Citizen Organizations and Home Owners - The Consultant shall provide a presentation to all interested organizations and homeowners within the Basin or affected by the intended study. Presentation shall include inventory findings, intended modeling, and known problem areas.

TASK 6. Phase II Report and Deliverables

Deliver to Seminole County the computer equipment, peripherals, software, and training necessary to review, update, maintain, and utilize the intended study deliverables. Deliver to Seminole County, upon completion of Phase II, a written report, limited to fifteen (15) pages, addressing all aspects of the project with specific attention to Tasks 2 and 5, above. Seven copies are required with supporting documentation to include:

A. Maps of the Basin (Seven (7) copies) as described in Task 4, above.

B. Inventory books (Seven (7) copies plus original) containing pictures of drainage system features with the proper numbering system consistent with all intended computer modeled designations and the data as described in Task 3, above.

C. Diskette(s) (Three (3) sets) of computer data base as described in Tasks 3 and 4, above.

D. Field Survey log books (Three (3) copies plus original). Field notes of surveys shall be recorded in books issued by, and to remain the property of Seminole County. All survey work must be done in accordance with Chapter 21 HH-6, Florida Administrative Code, The Minimum Technical Standards of Land Surveying in the State of Florida as adopted by the Florida State Board of Land Surveyors. Survey notes may be used as evidence in court and will represent a legal and official map of the area; therefore, all work and information provided shall be correct and accurate in order to comply with the certification now required of a professional surveyor.

Upon Seminole County's review and coordination with applicable municipalities and agencies, the Consultant shall revise written reports and deliverables and resubmit to County. Final deliverable will include original data gathered under Task 1, and diskette(s) for Task 6A.

TASK 7. Phase II Meetings and Coordination

Upon receipt of written authorization of the County, the Consultant shall provide the specific services as related not later than ____ calendar days from the date of authorization. Monthly meetings will be held with Seminole County staff to discuss the project's progress and/or problems. Minutes of these meetings will be supplied by Consultant to the County for review. Deviations from the established project schedule of more than one week will be scrutinized, and must be explained with corrective actions identified. Revised schedules will be required when deviations occur.

PHASE III
ENGINEERING ANALYSIS

Upon completion of Phase II and County approval, Consultant shall commence with Phase III. The objective of this phase will be to analyze the system(s), establish service levels, determine system deficiencies, incorporate flood hazard avoidance programs and analyze their impacts, address the status of water quality and wetland investigations and their impacts, develop a master plan for the Basin, recommend prioritized solutions with cost estimates for correction, and obtain permit approval of the Study from applicable agencies.

TASK 1. Engineering Criteria & Model Development

A. Prepare appropriate nodal network schematics for each of the drainage systems in the Basin. The schematics shall be compatible with the latest adICPR version, approved by FEMA. All appropriate modeling parameters shall be developed, prepared and input to the program, using the Valance data management program. We anticipate ____ nodes, ____ reaches, ____ primary basins, and ____ secondary basins for this study.

B. Each structure and drainage system shall be categorized as to its function (i.e., roadway, retention/detention, etc.) and the appropriate design criteria shall be assigned for analysis purposes. Rates and volumes of stormwater runoff for each system for the appropriate storm events shall be determined using the SJRWMD rainfall volumes and distributions. As a minimum, the events considered for design shall be:

i. 100-year, 24-hour storm event for flooding conditions, bridges with greater than 20 foot spans, and all evacuation routes, hospitals, shelters, schools, etc.

ii. 50-year, 24-hour storm event for all cross drains or bridges less than 20 foot span located at high use or essential roadway facilities (ADT > 1500 or required for emergency access or evacuation).

iii. 25-year, 24-hour storm event for the primary drainage system and retention/detention facility design.

iv. 10-year, 24-hour storm event for road system design (closed pipe systems).

v. Period of rainfall record (80 years) for landlocked lake systems. Rainfall record during the years 1994 and 1995, along with observed water surface levels, shall be used for model calibration.

TASK 2. Engineering Analysis & Design

A. Continuous Simulation Model - The analysis based on long term hydrologic simulation shall provide a determination of the appropriate normal water levels, initial water surface elevations, base flow, and various tailwater elevations for the design storm event stages and discharges in the adICPR modeling. As a minimum, the analysis shall provide determinations relevant to the Mean Annual, 10-year, 25-year, 50-year, and 100-year design storm event frequencies. The level of geotechnical/hydrogeological investigations and continuous simulation analysis for individual sub-basins may vary throughout the Basin.

i. The geotechnical/hydrogeologic investigation shall generally consist of the following and shall be applied to each Sub-basin which has a history of, or potential for, flood hazards. The Consultant shall submit a list of potential flood hazard areas and obtain approval by County for evaluation of any sub-basin prior to any geotechnical field and laboratory investigation.

a. Review of published soils and hydrogeologic data for the sub-basin area. This review should address SCS soil map units, topography and surface water drainage, subregional geology and hydrogeology (including water table conditions and Floridan aquifer potentiometric surface elevations and recharge), Floridan aquifer water quality, and recharge characteristics of aquifer system.

b. Review of available hydrologic records of lake levels and rainfall. It is desirable that the study period include at least two consecutive years (preferably 1994 and 1995) of above-normal rainfall.

c. Conduct a geotechnical field and laboratory investigation to assess the characteristics of the effective portion of the surficial aquifer system. Characterization data is to include hydro-stratigraphy, water table elevation, water table gradient, and hydraulic conductivity at representative locations adjacent to the lake. This data is to be used for computing transient lateral ground water flux into or out of the lake during the simulation period. The following scope of work is recommended at a minimum of one (1) transect location adjacent to the depressional basin:

(1) Three (3) SPT or power auger borings to a minimum depth of 25 ft or to a depth of 15 ft below the bottom of the depression. These borings shall be placed on a transect line perpendicular to the edge of the water and be offset at three distances extending from the edge of the water approximately 100 feet (30, 60, and 100 feet) to 500 feet (30, 100, and 500 feet).

(2) Surficial aquifer piezometers (2-inch diameter) shall be installed adjacent to each boring to a minimum depth of 25 ft or 15 ft below the bottom of the depression. The piezometers shall be screened in the effective portion of the surficial aquifer system which contributes ground water baseflow to the depression. A pump test or slug test shall be performed on at least one piezometer (preferably the middle one) in the transect to estimate the horizontal hydraulic conductivity of the water table aquifer.

(3) If the published hydrogeologic data is insufficient, a deep boring at the edge of the lake and at least 10 ft into the top of the Floridan aquifer may be needed to characterize the sediments between the base of the depression and the top of the upper Floridan aquifer. A deep grouted piezometer may also be needed if there is uncertainty with respect to the Floridan aquifer potentiometric surface in the locality of the depression.

(4) All piezometers shall be surveyed relative to NGVD or a local reference datum.

(5) Permeability characteristics of the recovered soil samples shall be ascertained by visual & tactile methods together with appropriate laboratory soil testing.

(6) It may be prudent to document the bathimetry of the lake bottom and to take sediment samples of the bottom deposits to assist in characterizing the leakance properties of the lake.

ii. The continuous simulation modeling for individual sub-basins shall generally consist of the following and shall be applied to each sub-basin which has a history of, or potential for, flood hazards. The Consultant shall submit a list of potential flood hazard areas and obtain approval by County for evaluation of any sub-basin prior to any modeling.

a. Develop/calibrate a continuous simulation ground water/surface water interaction model to reasonably predict the water levels during the period of rainfall record (80± years) and selected calibration period (preferably to include 1994 and 1995). The simulation should be based on at least monthly hydrologic data. The purpose of this model is to simulate the fluctuation in the lake level based upon the hydrology of the basin. Hydrologic input parameters shall include but not be limited to the following:

(1) The stage area relationship and its effective perimeter.

(2) Parameters to compute surface water runoff including the area of the contributing drainage basin, weighted Curve Number, directly connected impervious area (which is very important for small event hydrology), etc.

(3) Daily rainfall, evaporation, and evapotranspiration for the simulation period.

(4) Aquifer parameters for computing transitory lateral and vertical ground water fluxes into the basin.

(5) Artificial recharge sources to the ground water basin such as septic drainfields and land application of reuse water.

(6) Stage/Discharge structure data.

B. adICPR Models - The Consultant shall provide modeling scenarios for an Existing Model, Design Model, Interim Model, Ultimate Design Model, and Ultimate Final Model. The latest adICPR version, approved by FEMA, shall be used.

i. The Existing Model shall be based upon Existing Land Use Conditions applied to the existing hydrology and hydraulics within the Basin. The Consultant shall submit to the County a list of imminent development proposed within the basin. Proposed developments may be incorporated into the existing model as directed by County. The Existing Model shall incorporate all necessary elements from Task 2)A) - Continuous Simulation Model.

a. The Consultant shall utilize the Existing Land Use Maps as provided by the Seminole County Planning Department and modify as necessary with latest available information.

b. The Consultant shall observe and assess the ability of each numbered structure and channel reach in the Existing Model to meet Level Of Service (LOS) as specified in the Seminole County Comprehensive Plan for each of the simulated storms. The LOS shall be defined as follows:

(1) Service Level A: Flow is contained within the system such that no flooding of major roadways, minor roadways, yards or buildings occurs. The hydraulic grade line is generally at or below inlet throats and/or top of bank in channels.

(2) Service Level B: Flow is contained within the right of way such that flooding is limited to the outer lane of major roadways and does not prevent travel; is of limited duration in minor streets; and is generally limited to the right-of-way of yards. No flooding of buildings occurs. The hydraulic grade line is at or slightly above the inlet throat and/or encroaches on top of curb and/or breaches top of bank in channels.

(3) Service Level C: Flow is contained within the property such that flooding of major roadways precludes the use of outer lanes and travel in inner lanes is possible but difficult; flooding of minor streets precludes travel; and flooding of yards is up to the face of buildings but no flooding of the buildings occurs. The hydraulic grade line is significantly above the inlet, beyond road rights of way and beyond normal channel in the floodplain.

(4) Service Level C/D: Flow conditions meet Level C criteria except that roadways at primary drainage system crossings are overtopped. Regardless of flood depth and duration, associated flow velocities generate an erosion hazard to be avoided.

(5) Service Level D: Extensive flooding of yards and buildings for prolonged periods.

c. The Consultant shall observe and assess the ability of each numbered structure and channel reach in the Existing Model to meet all applicable State, Regional, and Local criteria which exceeds Seminole County's LOS. Areas of erosive velocity or other potential damage shall be identified.

d. Existing Land Use Conditions will be applied to the 100-year frequency, 24-hour storm event for purposes of identifying the existing flood plain. This element is the intended submittal to FEMA for a physical map revision of the associated existing flood plain.

ii. The Design Model shall be based upon proposed improvements under Existing Land Use Conditions. The Design Model shall incorporate all necessary elements from Task 2) A) - Continuous Simulation Model and Task 2)C) - Flood Hazard Avoidance Program. Solutions to be considered shall include both structural and non-structural improvements. The County shall jointly participate in the determination of areas in which improvements will be made.

a. The Consultant shall utilize the Existing Land Use Maps as provided by the Seminole County Planning Department and modify as necessary with latest available information.

b. The Consultant shall model recommended improvements as approved by Seminole County which meet the most stringent design requirements of either the Seminole County LOS, State, Regional, or Local criteria for deficiencies as observed under Tasks 2)B)i)b) and 2)B)i)c) above. The Consultant will reassess the proposed Seminole County LOS for each of the simulated storms of the drainage system network and clearly identify the improvements assessed under Task 2)B)i)c) which exceed the criteria of Task 2)B)I)b).

c. Existing Land Use Conditions will be applied to the 100-year frequency, 24-hour storm event for purposes of identifying the proposed flood plain. This element is for determination of any necessary submittal to FEMA for a Conditional Letter of Map Revision (CLOMR) if directed by Seminole County.

iii. The Interim Model shall be based upon the ability of the proposed improvements under Existing Land Use conditions to meet Level of Service as specified in the Seminole County Comprehensive Plan. Interim Designs shall only be applied to those structures which significantly impact upstream and/or downstream property owners or facilities in a manner that is found to be cost prohibitive to individual improvements under the Design Conditions Model. The reassessment as required under Task 2) B) ii) b shall be utilized in the selection of interim alternatives. Proposed interim improvements meeting LOS "C" for the 25-year frequency, 24-hour storm events which are still considered cost prohibitive to individual improvements may be designed for the 10-year frequency, 24-hour storm event LOS "C" upon approval by the County.

iv. The Ultimate Design Model shall be based upon Future Land Use Conditions applied to the Design Model.

a. Future Land Use Conditions shall be based on the Comprehensive Land Use Plan as provided by the Seminole County Planning Department and modify as necessary with latest available information. Mapping will be based on generalized land use categories rather than specific land use tracts and will be produced as an independent map from Existing Land Use Conditions. The advantage of the broader based approach will allow for future modifications by County staff as the need arises.

b. The Consultant shall observe and assess the ability of each numbered structure and channel reach in the Ultimate Design Model to meet Level of Service (LOS) as specified in the Seminole County Comprehensive Plan for each of the simulated storms.

c. The Consultant shall observe and assess the ability of each numbered structure and channel reach in the Ultimate Design Model to meet all applicable State, Regional, and Local criteria which exceeds Seminole County's LOS.

d. Future Land Use Conditions will be applied to the Mean Annual, 10-year, 25-year, 50-year, and 100-year frequency, 24-hour storm events for purposes of identifying volumetric impacts to the Design Model potential flood plain and stage/flow rate impacts to the Design Model LOS, State, Regional, and Local criteria for the drainage network system in the Basin.

v. The Ultimate Final Model shall be based upon proposed improvements to the Ultimate Design Model under Future Land Use Conditions. Solutions to be considered shall include both

structural and non-structural improvements. The County shall jointly participate in the determination of areas in which improvements will be made.

a. The Consultant shall model recommended improvements as approved by Seminole County which meet the most stringent design requirements of either the Seminole County LOS, State, Regional, or Local criteria as observed under Tasks 2)B)iv)b) and c), above. The Consultant will reassess the proposed Seminole County LOS for each of the simulated storms of the drainage system network.

b. Where Future Land Use categories reflect a significant variation from existing land use categories, modeling will incorporate "on-site" quantity and quality treatment based on the 25-year frequency, 24-hour storm event or 25-year frequency, 96-hour storm event for landlocked conditions. This will be based upon conceptual treatment and will not be considered as site specific design.

c. Future Land Use Conditions will be applied to the Mean Annual, 10-year, 25-year, 50-year, and 100-year frequency, 24-hour storm events for purposes of identifying required improvements and associated costs to correct volumetric impacts to the Design Model potential flood plain and stage/flow rate impacts to Design Model LOS, State, Regional, and Local criteria for the drainage network system in the Basin.

C. Flood Hazard Avoidance Program - The Consultant shall prepare a Flood Hazard Avoidance Program in Order to establish an operational procedure to reduce the frequency of flooding in "closed" or "limited" discharge capacity Sub-basins within the Study watershed. The investigation shall include the establishment of protocols for sub-basin management and an assessment of impacts on the overall watershed. The Consultant will then determine the frequency of any hazard and the type of management integration required to reduce the extent, duration, and/or frequency of the hazard. The Consultant shall submit a list of potential flood hazard areas and obtain approval by County prior to evaluation of any sub-basin.

i. The analysis shall be limited to sub-basins with a history of, or potential for, flood hazards. The Consultant will determine the frequency of any hazard and the type of management integration required in the adICPR Design Model to reduce the extent, duration, and/or frequency of the hazard.

a. Based on first floor elevations, roadway elevations, septic tank drainfield elevations, etc. provided by the County on an as-needed basis, the Consultant shall recommend the establishment of a managed lake level that will reduce the frequency of flooding through:

(1) Determination of the lake level that "triggers" discharge action.

(2) Determination of discharge capacity, type, etc. to achieve managed lake level.

ii. Flood Hazard Avoidance Plans may include improvement of existing (high frequency) outfalls, creation of low frequency outfalls, lake level regulation/modification, future land use restrictions, new stormwater ordinances, etc.

a. Modification of the outfall system, under any condition, will have an impact on the receiving waters. The analysis shall determine the extent of that impact to ascertain if corrective measures need be applied to individual improvements, including re-evaluation of the outfall options.

(1) Re-evaluation of long term hydrologic simulation with modified outfall capacity.

(2) Analysis of "frequency of flood protection" based on not more than two scenarios; to be determined by the County.

b. The Consultant shall re-run the adICPR Design Model using revised tailwater conditions and the effective discharge determined from a) above as additional baseflow to ascertain

the impacts, if any, on Mean Annual, 10-year, 25-year, 50-year, and 100-year design storm event stages and discharges.

TASK 3. Water Quality and Wetland Investigations

The Consultant shall address Water Quality and Wetland Impacts in the Final Report. The Consultant shall identify areas of concern to water quality, wetlands, utilization of natural systems, etc. The analysis should be a guide to future users of report not to contribute or create impacts to sensitive environmental areas within the watershed.

A. Sampling or other field investigations shall be provided to establish base line analysis for proposed Flood Hazard Avoidance Plans.

B. Interface with County NPDES Consultant.

C. Interface with Seminole County for issues related to Natural Lands and Mitigation sites.

D. Conceptual application of water quality treatment requirements for proposed facilities as per current regulations for retention/detention facilities, or other potential treatment systems.

E. SJRWMD Wetland Inventory Mapping and field investigations as necessary to obtain SJRWMD ERP Permit.

TASK 4. Calibration Plan

The Consultant shall provide a separate section in report identifying locations for minimum permanent placement of rainfall and lake/stream gages in order to validate the model and be able to modify model parameters, if necessary, at some future time for more definitive and predictable modeling. The Consultant shall also identify specific areas within the Basin requiring greater attention in future updates to the model.

TASK 5. Develop a Basin Master Plan based on the Task 2 - Engineering Analysis & Design

The Consultant shall recommend conceptual solutions for stormwater deficiencies, the needs for right-of-way and easements, meet with appropriate regulatory agencies and municipalities, prepare a capital improvements prioritization list, provide analysis to insure in developing the improvement that phased improvements will not cause adverse impacts either upstream or downstream, and prepare Conceptual Cost Estimates for each basin improvement. The cost estimate will include final design services, land acquisition, construction, and materials.

A. Recommend the structural and non-structural conceptual solutions for stormwater deficiencies.

B. Recommend the needs for right-of-way and easements for the improvements based on the Seminole County Land Development Code.

C. Meet with appropriate regulatory agencies in order to assure the design efforts are properly directed toward their permitability; this list will include the St. Johns River Water Management District, the Florida Department of Environmental Regulation and the appropriate municipalities within the basin boundaries.

D. Prepare a capital improvements prioritization list for making the deficiency correction improvements. The improvements shall be ranked based on the severity of the deficiency and extent of the problem, environmental constraints associated with permitting, ecological and wildlife impacts/preservation/enhancement, relative costs, public impact and acceptance, and the capacity/demand for the proposed improvements.

E. Provide analysis to insure in developing the improvement that phased improvements will not cause adverse impacts either upstream or downstream of each improvement (see Task 2, B, iii). The cost estimates will include recommendations as to the type of materials for improvements.

F. Prepare Conceptual Cost Estimates for each basin improvement. The cost estimate will include final design services, land acquisition, construction, and materials.

TASK 6. Public Presentation and Informational Meetings

The Consultant shall assist Seminole County and provide Public Presentations for the purpose of presenting the Study. Part of the public presentation preparation shall include handout pamphlets and graphic displays as provided by the Consultant and approved by the County. Presentations shall afford local input of concerns and issues during two discrete stages of Phase III. The first presentation shall occur after completion of adICPR Existing Model and identification of preliminary proposed improvements as required under Task 2. The second presentation shall occur prior to permitting as required under Task 7. Consultant shall provide to County written minutes and audio tape of presentations.

A. Municipalities - The Consultant shall provide a maximum of two (2) presentations to municipalities, within the Basin or affected by the intended Study, for coordination of modeling, proposed improvements, FEMA map revisions, and proposed flood hazard avoidance programs.

B. Citizen Organizations And Home Owners - The Consultant shall provide a maximum of one (1) presentation to interested organizations and home owners for presentation of proposed improvements, FEMA map revisions, and proposed flood hazard avoidance programs.

C. Board of County Commissioners - The Consultant shall provide a maximum of two (2) presentations to Seminole County Commissioners for presentation of Studies intent and findings.

TASK 7. Permitting

The Consultant shall prepare, submit, and obtain permit approval from all necessary Regulatory Agencies including, but not limited to, SJRWMD and FEMA.

A. SJRWMD – The Consultant shall hold a pre-application meeting with SJRWMD and discuss the potential projects in the Study. The Consultant shall incorporate SJRWMD comments into the Study report. Final Permitting will be conducted in Phase IV task 1a & 1b.

B. FEMA - The Consultant shall initiate FEMA permitting after final SJRWMD ERP Permit approval. The Consultant shall coordinate with FEMA to address modeling differences between previously approved investigations prior to formal submittal. The Consultant shall prepare and submit the Study to FEMA for a physical map revision of the associated flood plain and respond to requests for additional information by FEMA for purposes of clarifying the application request.

i. The Consultant shall complete, based on information available in the above referenced tasks, FEMA Forms 1 through 5 (MT-2 FEMA Form 81-89 Series, Oct. 94) and submit to Seminole County for review. These forms and their requirements are summarized as follows:

a. FORM 1 - Revision Requester and Community Official Form - This form provides the basic information regarding revision requests.

b. FORM 2 - Professional Certification Form - The professional engineer performing or directly supervising the work performed for this request must hold current registration in the state in which the work was performed.

c. FORM 3 - Hydrologic Analysis Form - This form is used when discharges other than those used in the FIS (Flood Insurance Study) are proposed. It essentially requests sources of data used (i.e. field survey) and requests documentation regarding the model used.

d. FORM 4 - Riverine Hydraulic Analysis Form - This form is used when a hydraulic analysis is performed that differs from that used to develop the standing FIRM (Flood Insurance Rate Map).

e. FORM 5 - Riverine/Coastal Mapping Form - This form is used when mapping changes to either the FIRM or the FBFM (Floodway Boundary and Floodway Map). This form requires submittal of topographic work maps and annotation of current FIRM/FBFM maps. The submittal will be based on the topographic maps as provided by either Seminole County or SJRWMD. Appropriate FIRM panels will be provided by Seminole County.

ii. Seminole County shall review the forms, make recommendations/requests for modification as appropriate, and complete sections required as "Revision Requester". The Consultant shall coordinate with Seminole County to finalize the forms and submit the application to FEMA.

Note: The application request requires an initial minimum submittal fee of $865.00. Before a determination is issued, the requester will be billed for any actual costs incurred during the review that exceed the initial fee. If the request is subsequently approved, fees to cover the costs of cartographic preparation of the FIRM/FBFM panels are assessed at $410 per panel. We would expect a total of 4 panels to be affected by this request; including Panels 12117C0010 E, 12117C0020 E, 12117C0030 E, and 12117C0040 E. All fees to FEMA are the responsibility of Seminole County and are not included in this proposal.

iii. The Consultant shall respond to requests for additional information by FEMA for purposes of clarifying the application request. No additional investigations are included.

TASK 8. Phase III Report & Deliverables

The Consultant shall deliver to the County a Draft Preliminary Report; a SJRWMD Permit; a FEMA Permit; a Draft Final Report, the Final Engineering Study and Drainage Inventory for the Basin, and a brief public information pamphlet.

A. Prepare and deliver to the County, upon completion of Task 6 and a preliminary report outline as approved by County, eight (8) copies of a Draft Preliminary Report for review by Seminole County staff. The report will summarize the work findings and recommendations. The report must contain, but not be limited to, the following:

i. A brief statement of scope, criteria, methodology, source and other support material and information, etc.

ii. The characteristics of the individual systems or sub basins, continuous event modeling, deficiencies, design criteria, and related service levels.

iii. Environmental issues concerning wetlands, wildlife habitats, surface and ground water quality, natural lands programs, etc.

iv. The proposed improvements, flood hazard avoidance programs, prioritization, cost estimates, location maps, and right of way and/or easement requirements for the individual systems or sub-basins.

v. The operating condition of the system based on existing and recommended maintenance conditions.

vi. Calibration plan, modeling limitations and future update considerations, modeling validations based upon observations and empirical data, etc.

vii. A tabular listing of the inventoried drainage features to include surveyed geometry, location, and drainage capacity, level of protection, level of service, and demand for each condition and storm event modeled.

viii. A tabular listing of lake systems to include flood elevations, outfall characteristics, etc.

ix. The mapping of the system based upon Phase I deliverables updated with Phase II findings. Phase II mapping shall include, but not be limited to, the following:

a. Basin Base Map shall be revised for consistency with Study and all computer modeled designations.

b. Existing Studies Map shall be revised for any additional information obtained after Phase I deliverable.

c. FEMA Map as approved under Phase III, Task 7. Map shall be at same scale as Basin Base Map, above.

d. Individual Sub-Basins - All mapping for this effort shall be consistent in scale and common features.

(1) Existing Conditions Map shall be revised for consistency with Study and all computer modeled designations. The 10-year and 100-year floodplains with elevations, existing system deficiencies, and Data Summary Tables for 10-year, 25-year, 50-year, and 100-year shall be added.

(2) Design Conditions Map shall be provided consistent with format of the Existing Conditions Map.

(3) Contoured Aerials shall be revised for any additional information obtained after Phase II deliverable.

(4) SCS Soil Survey Map shall be revised for any additional information obtained after Phase II deliverable.

(5) Environmental Features Map shall be revised for any additional information obtained after Phase II deliverable.

(6) Existing Land Use Map shall be revised for any additional information obtained after Phase II deliverable.

(7) Future Land Use Map shall be revised for any additional information obtained after Phase II deliverable.

x. The operating condition of the system based upon future land use with emphasis on describing lake level regulation, future land use restrictions, new stormwater ordinances, etc.

B. Following review, comment, revisions, and approval by Seminole County, finalize and deliver the SJRWMD Permit package to the County for approval and any necessary signatures.

C. Following final permit (Phase IV, Task 1a & 1b) approval by SJRWMD Board of Governors, finalize and deliver the FEMA Permit package to the County for approval and any necessary signatures.

D. Following review, comment and approval by FEMA, finalize and deliver to the County:

i. Eight (8) copies of a Draft Final Report for review, comment, revisions by consultant, and approval by Seminole County staff.

ii. Upon Seminole County approval of Draft Final Report, deliver to the County twenty-five (25) copies of the Engineering Study and Drainage Inventory for the Basin to include:

a. Final Master Plan Report. Submittal will include three (3) sets of adICPR and surface/ground water computer model simulation analysis, input and output, in both hard copy and computer diskette form as permitted.

b. Maps of the Basin. Submittal will include one (1) set of reproducible mylars and three (3) sets of computer diskettes.

c. Computer Data Base Inventory, Photographic Inventory Books, Field Survey Log Books, and any associated computer diskettes submitted under Phase II shall be updated for consistency with Phase II deliverables.

iii. Consultant shall condense the information in the final report including the purpose, conclusions and recommendations into a brief public information pamphlet. The public information pamphlet shall consist of a minimum number of pages in an appropriate format and content of the pamphlet prior to its final printing. The pamphlet shall clearly separate issues relevant to individual Counties, municipalities, agencies, etc. One hundred (100) copies each of the pamphlet will be furnished to Seminole County.

TASK 9. Phase III Meetings and Coordination

Upon receipt of written authorization of the County, the Consultant shall provide the specific services as related not later than ___ calendar days from the date of authorization. Monthly meetings will be held with Seminole County staff to discuss the project's progress and/or problems. Minutes of these meetings will be supplied by Consultant to the County for review. Deviations from the established project schedule of more than one week will be scrutinized, and must be explained with corrective actions identified. Revised schedules will be required when deviations occur.

PHASE IV
DEFICIENCY CORRECTION

Phase IV will include preparing documents required for the implementation of the approved basin master plan based on the results of Phase III. The County recognizes that exact activities required in the final Phase IV are not known as of the effective date of this contract. Final scope of services for projects within Phase IV will be negotiated for each individual project, as requested after completion of Phase III. For completeness in this contract, a basic scope of services is initially included in the "Consultant Guidelines for Proposed Scope of Work."

TASK 1. Deficiency Correction

Prepare documents and permits required for the implementation of the approved basin master plan. Tasks will include, but not be limited to, final design and construction drawings, right-of-way maps, bid documents, construction permits, and public information materials.

A. Design: The Consultant shall prepare 60, 90 and 100% design documents and permits required for the implementation of the proposed improvements. At each step (60, 90 and 100%), documents shall be submitted to the County (five (5) copies) for review and approval prior to proceeding.

B. Permitting: SJRWMD - The Consultant shall prepare and submit an ERP application to include responses as may be required under RAI's and attendance at Governing Board Hearings. The following tasks will be performed by the Consultant:

i. Attend Pre-Application Meeting (1 meeting) with SJRWMD (if not part of Phase III, task 7).

ii. Prepare application to SJRWMD to consist of:

a. Cover letter outlining Seminole County's understanding of the project and a summary of the content of the study in a format consistent with the SJRWMD Applicant's Handbook sections to assist SJRWMD staff in their review;

b. Five (5) copies of the Study (to be provided by Consultant);

c. Five (5) copies of the drainage calculations: adICPR input/output files (hard copy) and associated support material;

d. Five (5) sets of computer disks with adICPR model input/output data, and

e. Five (5) sets of mitigation plan (as required).

iii. Provide coordination and follow-up services in response to SJRWMD as it applies to clarification only. This will consist of no more than three (3) meetings, and preparation for those meetings, with SJRWMD, to include attendance at the Board Hearing, and no more than three (3) RAI meetings with the County. No additional studies, investigations or analyses are anticipated or included with this fee and scope estimate.

Provide one (1) copy of the permit package to Seminole County.

C. Construction administration: the consultant shall:
i. Develop Cost estimate,
ii. Attend pre-construction meeting,
iii. Assist with bid solicitation, evaluation and selection,
iv. Review and approve shop drawings, and
v. Provide design technical assistance.

Exhibit "B"

Board of County Commissioners
SEMINOLE COUNTY, FLORIDA

WORK ORDER

Work Order Number: _____

Master Agreement No.: _____ Dated: _____
Contract Title: _____
Project Title: _____

Consultant: _____
Address: _____

ATTACHMENTS TO THIS WORK ORDER:
- [ ] drawings/plans/specifications
- [ ] scope of services
- [ ] special conditions
- [ ] _____

METHOD OF COMPENSATION:
- [ ] fixed fee basis
- [ ] time basis-not-to-exceed
- [ ] time basis-limitation of funds

Term: This Work Order shall terminate upon completion of the project or _____ _____ from the date of execution, whichever comes first.

Work Order Amount: _____DOLLARS ($_____)

IN WITNESS WHEREOF, the parties hereto have made and executed this Work Order on this _____ day of _____, 20_____, for the purposes stated herein.

(THIS SECTION TO BE COMPLETED BY THE COUNTY)

ATTEST:

_____
, Secretary

(CORPORATE SEAL)

_____
(Company Name)

By: _____
, President

Date: _____

ATTEST:

MARYANNE MORSE
Clerk to the Board of County Commissioners of
Seminole County, Florida

For use and reliance of Seminole County only.
Approved as to Form and legal sufficiency.

_____
County Attorney

BOARD OF COUNTY COMMISSIONERS
SEMINOLE COUNTY, FLORIDA

By: _____
DARYL G. MCLAIN, Chairman

Date: _____

As authorized for execution by the Board of County Commissioners at their 20____ regular meeting.

WORK ORDER
TERMS AND CONDITIONS

a) Execution of this Work Order by the COUNTY shall serve as authorization for the CONSULTANT to provide, for the stated project, professional services as set out in the Scope of Services attached as Exhibit "A" to the Master Agreement cited on the face of this Work Order and as further delineated in the attachments listed on this Work Order.

b) The CONSULTANT shall provide said services pursuant to this Work Order, its Attachments, and the cited Master Agreement (as amended, if applicable) which is incorporated herein by reference as if it had been set out in its entirety.

c) Whenever the Work Order conflicts with the cited Master Agreement, the Master Agreement shall prevail.

d) METHOD OF COMPENSATION - If the compensation is based on a:

(i) FIXED FEE BASIS, then the Work Order Amount becomes the Fixed Fee Amount and the CONSULTANT shall perform all work required by this Work Order for the Fixed Fee Amount. The Fixed Fee is an all-inclusive Firm Fixed Price binding the CONSULTANT to complete the work for the Fixed Fee Amount regardless of the costs of performance. In no event shall the CONSULTANT be paid more than the Fixed Fee Amount.

(ii) TIME BASIS WITH A NOT-TO-EXCEED AMOUNT, then the Work Order Amount becomes the Not-to-Exceed Amount and the CONSULTANT shall perform all the work required by this Work Order for a sum not exceeding the Not-to-Exceed Amount. In no event is the CONSULTANT authorized to incur expenses exceeding the not-to-exceed amount without the express written consent of the COUNTY. Such consent will normally be in the form of an amendment to this Work Order. The CONSULTANT's compensation shall be based on the actual work required by this Work Order and the Labor Hour Rates established in the Master Agreement.

(iii) TIME BASIS WITH A LIMITATION OF FUNDS AMOUNT, then the Work Order Amount becomes the Limitation of Funds amount and the CONSULTANT is not authorized to exceed the Limitation of Funds amount without prior written approval of the COUNTY. Such approval, if given by the COUNTY, shall indicate a new Limitation of Funds amount. The CONSULTANT shall advise the COUNTY whenever the CONSULTANT has incurred expenses on this Work Order that equals or exceeds eighty percent (80%) of the Limitation of Funds amount. The CONSULTANT's compensation shall be based on the actual work required by this Work Order and the Labor Hour Rates established in the Master Agreement.

e) Payment to the CONSULTANT shall be made by the COUNTY in strict accordance with the payment terms of the referenced Master Agreement.

f) It is expressly understood by the CONSULTANT that this Work Order, until executed by the COUNTY, does not authorize the performance of any services by the CONSULTANT and that the COUNTY, prior to its execution of the Work Order, reserves the right to authorize a party other than the CONSULTANT to perform the services called for under this Work Order; if it is determined that to do so is in the best interest of the COUNTY.

g) The CONSULTANT shall sign the Work Order first and the COUNTY second. This Work Order becomes effective and binding upon execution by the COUNTY and not until then. A copy of this Work Order will be forwarded to the CONSULTANT upon execution by the COUNTY.

Exhibit "C"

RATE SHEDULE

Exhibit "D"

Truth in Negotiations Certificate

This is to certify that, to the best of my knowledge and belief, the wage rates and other factual unit costs supporting the compensation (as defined in section 287.055 of the Florida Statues (otherwise known as the "Consultants' Competitive Negotiations Act" or CCNA) and required under CCNA subsection 287.055 (5) (a)) submitted to Seminole County Purchasing and Contracts Division, Contracts Section, either actually or by specific identification in writing, in support of PS-_____-____* are accurate, complete, and current as of _____(Date)**. This certification includes the wage rates and other factual unit costs supporting any Work Orders or Amendments issued under the agreement between the Consultant and the County.

Firm _____

Signature _____

Name _____

Title _____

Date of execution*** _____

* Identify the proposal, request for price adjustment, or other submission involved, giving the appropriate identifying number (e.g., PS No.).

** Insert the day, month, and year when wage rates were submitted or, if applicable, an earlier date agreed upon between the parties that is as close as practicable to the date of agreement on compensation. .

*** Insert the day, month, and year of signing.

(End of certificate)